

Energy at Work

A Monthly Review of Recovery Programs Working for Kentuckians



Kentucky Energy & Environment Cabinet
Department for Energy Development and Independence

Sustainability in Action at Sherwin-Williams Plant in Richmond

Article by Sandy Denham, Kentucky Pollution Prevention Center



On December 3, 47 attendees gathered at the Sherwin-Williams facility in Richmond for a plant tour and the inaugural meeting of the Kentucky Energy Alliance. Attendees got a first-hand look at the energy management techniques that helped the company realize a 24.9 percent drop in electricity usage between 2006 (their baseline year) and 2009. Sherwin-Williams has implemented dozens of energy-saving projects over the past few years, and has been recognized nationally for its significant progress in energy efficiency.

Gary Satler, Manager for Engineering, Maintenance & Safety at the facility, presented a case study detailing the progress that has been made. During the facility tour, numerous members of the site sustainability team talked with meeting attendees, explained projects, highlighted the returns achieved and discussed lessons learned.

Describing Sherwin-Williams' commitment to sustainability, Mr. Satler said, "Our site has made energy reduction a critical component of our continuous improvement mindset. The projects completed over the past several years have had a positive impact on site expenses while improving morale, work atmosphere and the appearance of the site." He added that as they implemented more sustainability projects, and the returns on investment continued to add up, they have been able to get financial support for more capital-intensive projects. The initiative taken by the sustainability team at the Richmond Plant has proven itself and is now being implemented company-wide.

Many people on the tour expressed great interest in the LED lighting being tested at the facility. Mr. Satler said, "At the Richmond Plant we are testing T8 LED lighting due to the significant energy reduction along with reduced maintenance costs." The T8 LED lights under trial are only 15 total watts each. This is a significant drop from most T8 bulbs that are 32 watts.

The inaugural meeting of the Kentucky Energy Alliance (KEA) also took place at Sherwin-Williams. KEA's mission is to promote and

achieve better energy management through networking, program activities and education. The Alliance is targeted to industrial and large commercial facilities. During the KEA meeting, representatives from Kindred Healthcare and Reynolds Packaging each gave short overviews of what their companies have been doing to improve energy management. Attendees asked questions and received feedback from their peers about what works and what doesn't at their facilities. The Alliance will begin holding regular meetings in 2011 and will be open to all industries in Kentucky.

Carbon Offsets

As part of its commitment to hosting environmentally-friendly events, KPPC purchased 1.5 metric tons of carbon dioxide offsets for this event. The credits were purchased through the [Mountain Association for Community Economic Development \(MACED\)](#).



Gary Satler, Manager for Engineering, Maintenance & Safety, presented a case study detailing the facility's progress.

Madison Middle School hosts Eco Day led by students

Article by Whit Pennington, [KY NEED](#) Regional Coordinator

On September 13th I had a meeting about having an Eco event at Madison Middle School that would touch each classroom and student in the school. Madison County was going to be getting into Energy Education this school year and Madison Middle wanted to do it right. I met with school staff on several occasions to discuss how the Eco day event was going to be set up and what National Energy Education Development (NEED) Project education kits were going to be used. In the end we chose the Science of Energy and the Energy Works Kits. The Science of Energy kit addresses the forms of energy, such as chemical reactions or electricity. The Energy Works kit explores the basic concepts of atomic structure and electricity. Both kits were used in KY NEED's fall teacher workshops.

We wanted to have all the 420 students at Madison Middle School to rotate through the 16 stations that we set up from the two combined kits. Staff at Madison Middle School set up a schedule to have classrooms to rotate through some if not all of the stations. Since KY NEED prides itself on its "Kids Teaching Kids" philosophy we wanted to have students lead the activities at each of the stations. I met a week before the event to show some hand-picked students what they will be doing at each of the stations and provided materials so the students could learn for themselves about their station and how it should be run. So they instructed the students that came to their station with very little help from teachers.

On November 17th I helped set up the gym with the tables and set out the stations on each of the tables. That next morning the students started to come in and learn about energy. The majority of the 420 students rotated through the Eco day event and we had a write-up in the Richmond Register.

HVAC Inspection Codes Take Effect

Article in collaboration with Maggie Greene, KY Dept. of Housing, Buildings and Construction



Mike Martindale and Arthur Ball, of the KY Dept. for Housing, Buildings and Construction make an HVAC inspection for a home builder in Garrard County.

The Kentucky Department for Energy Development and Independence is partnering with the Department for Housing, Buildings and Construction (HBC) to conduct training events. HBC will receive \$457,153 for training and \$1,198,895 for inspections through the American Recovery and Reinvestment Act. This funding will provide education and training to local and state code enforcement officials responsible for residential and commercial building energy codes as well as funding for inspectors statewide to achieve 90 percent compliance with new energy-efficient building codes within six years.

January 1, 2011 marked the beginning of a new year and a national precedent. As stipulated in Senate Bill 10, The Commonwealth of Kentucky

now requires permits and inspections for all new construction projects and HVAC installations statewide, making it the first state in the nation to do so. In pursuit of the goal for 90 percent compliance of the adopted energy code, the Commonwealth continues to utilize its \$68 million federal recovery dollars to maximize efficiency and reduce energy consumption.

In accordance with SB10, any licensed HVAC contractor working on new construction or initial system installation projects must apply for an HVAC permit. This applies also to homeowners installing systems in a new home or initial systems in existent structures. Additionally, all permitted projects require inspections. These inspections are conducted by state certified personnel for the sole purpose of ensuring code compliance and consumer safety.

More than 100 complaints are filed each year and a large number of them are due to issues of non-compliance such as unit over-sizing. "Aside from a homeowner's mortgage, heating and cooling is likely the largest expense," said HVAC Division Director Tim House. "Proper sizing and installation will ensure that the cost of energy is lowered."

Such issues present not only higher utility costs and property damage, but compromised safety as well. The program is designed to eliminate these concerns. As a precautionary measure, permits can only be purchased by properly authorized personnel and strict requirements are in place in order to pass inspection. As a result, the industry anticipates a reduction in complaints as well as code violations in general.

Overall, this program puts the Commonwealth at an advantage. As more construction goes up, so do energy savings and revenue. For more information on HVAC permits and inspections, license requirements, or to file a complaint, visit: www.dhbc.ky.gov/HVAC.

KY NEED Launches Vending Miser Project

In October, the Kentucky National Energy Education Development (NEED) Project formed a partnership with the School Energy Mangers Project (SEMP) and the Kentucky Energy Education Program for Schools (KEEPS) to initiate the Vending Misers project for Kentucky's school districts. The Vending Miser is a device consisting of a Miser unit and an infrared occupancy sensor. The device deactivates the lights in the vending machine and prevents unnecessary compressor cycling when it senses no traffic in the vicinity of the machine for an extended period of time. In other words, the miser enables the vending machine to turn off when there is no activity and turn back on when there is, while still keeping the drinks chilled.

Through a partnership with Sanders and Associates, the exclusive distributor of VendingMisers® in Kentucky, KY NEED is able give the device to one public school per district for the purpose of assisting in energy management and becoming a learning tool for students.

Students at Northern Elementary School in Scott County are already experiencing positive results from their Vending Miser. In a recent article in the Georgetown News-Graphic, Northern Elementary School's energy committee coordinator, Elizabeth Cook spoke about the benefits of teaching her students about energy management and conservation through incorporating the Vending Miser.

"The students were really excited," said Cook. "They found [the Vending Miser] easy to use, helpful and that it was able to save energy." Her class tracked energy usage by vending machines with and without the Miser, and found that Northern spent \$3.36 per kilowatt without, and after Miser usage cut it down to \$1.17 per kilowatt, during a two-week time period.

Learning about energy conservation and management has both built pride and helped Ms. Cook's students develop a sense of responsibility for their actions and for their school. "They are doing something for their school and it empowers them," she said. "It gives them a sense of pride and one of the ideas behind allowing the students to be part of the team is so they can be educated about energy since they will be the ones making responsible decisions in the future."





Faces of the Recovery Act

Putting People to Work

Mike Martindale, KY Department for Housing, Buildings and Construction

Mike Martindale joined the Kentucky Dept. for Housing, Buildings and Construction (HBC) in May 2010 as a Heating, Ventilating and Air Conditioning (HVAC) Inspector. Mike's primary duties include verifying that HVAC contractors, mechanics and apprentices are in compliance with license requirements; investigating alleged violations by interviewing home owners and contractors; and conducting visual inspections of HVAC equipment such as component parts, complete new HVAC systems, ducts, vent pipes, gas lines and electrical outlets during investigations. Mike also communicates with contractors about violations of the code and advises them on code requirements.

Before coming to HBC, Mike was a self-employed HVAC inspector, and earned a variety of certifications including: HVAC Technician, Universal EPA Certification (I-II-III), and HVAC Master Contractor among others. Mike is also currently enrolled in the Business Management Program at KCTCS.

"I really enjoy helping the public," said Mike. "I sometimes feel like we are an extra set of eyes and ears for the public when it comes to the HVAC industry, where they might not have the knowledge or experience in that particular area. With this program in place it creates many positive changes in this industry that includes, HVAC systems that are installed safely and correctly, which protects the public's safety as well as saves energy and the expenses of using such equipment by ensuring these systems are installed to code. The number one goal is of course to protect the safety of the public, but also to reduce our energy consumption and the costs of using these HVAC systems."



Mike Martindale, KY Dept. of Housing
Buildings and Construction

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Arthur Ball, KY Department for Housing, Buildings and Construction

Working along side Mike in the Dept. for Housing, Buildings and Construction (HBC) in HVAC Inspection is Arthur Ball. Arthur became an HVAC Inspector II for HBC in 1998. As a lead inspector, Arthur supervises and coordinates the work of inspectors and verifies that HVAC contractors, mechanics and apprentices are in compliance with license requirements. Arthur also issues warnings and notices of violation of laws pertaining to the installation of HVAC equipment by license holders. Arthur also attends HVAC Board meetings, hearings and court proceedings as a witness for the Commonwealth, and receives and investigates complaints concerning HVAC equipments by interviewing home owners, contractors and others concerning complaints.

Arthur attended high school in Harlan County, afterwards working as a coal miner foreman for nearly 18 years. Arthur became ACCA Certified with diploma and Journeyman HVAC License and worked a stint with his brother for Ball Heating and Cooling. Arthur says that what he most enjoys about his job as an HVAC Inspector is that he is able to help people.

Whit Pennington, KY National Energy Education Development (NEED) Project

In October 2010 Whit Pennington joined the KY National Energy Education Development (NEED) Project as a Regional Coordinator. Whit works with 27 school districts in southeastern Kentucky helping teachers and administration to integrate NEED programs into their curriculum. As the Regional Coordinator, Whit works with teachers to recruit them for KY NEED workshops, and distributes materials and kits as well as offering teacher education programs for professional development. Whit also leads Student Energy Team Workshops.

Before coming to KY NEED, Whit taught second through sixth grade Science, History and Practical Living Skills at the James Still Learning Center in Hindman, KY. He received a Bachelors and Masters degree in Natural and Historical Interpretation from Hocking College in Nelsonville, OH.

"I enjoy working for NEED because it allows me to work with teachers and students that are educating others and being educated about energy. Energy education is an important subject to have an understanding of...and most students don't really understand where our electricity comes from, how its generated, or what is required for them to have it. NEED allows me to go out into the community and educate teachers and students with a variety of materials and kits both in and out of the classroom. This allows energy education to be enjoyable and follow the Kentucky Core Content for Education."



Whit Pennington, KY NEED